THE WONDER WORLD OF
INSECTS

MARIE NEURATH

A PARRISH COLOUR BOOK FOR CHILDREN

THE WONDER WORLD OF INSECTS

by Marie Neurath

With their love of the wonderful, the miniature and the gaily coloured, young children are fascinated by the ways and habits of insects – creatures so different from ourselves that they might almost be dwellers on some other planet.

Many strange incidents of insect life, incredible but true, are related in this book: The parasol ants which grow mushrooms – A nest made of rose leaves and honey – Keeping the cattle on an insect farm – The weaver ants whose children spin – Tricking the enemy by strange disguises – The still watch of the fighting mantis – The cuckoo wasp in the mud-wasp's nest – The insect lamp which shines in the dark – The slave ants which feed their masters – Soldiers which defend the royal castle.

Each tale is told in simple, direct language and gaily but accurately illustrated with the large one-idea-at-a-time pictures which explain at a glance to young eyes and minds.

See back flap for other titles

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THE WONDER WORLD OF
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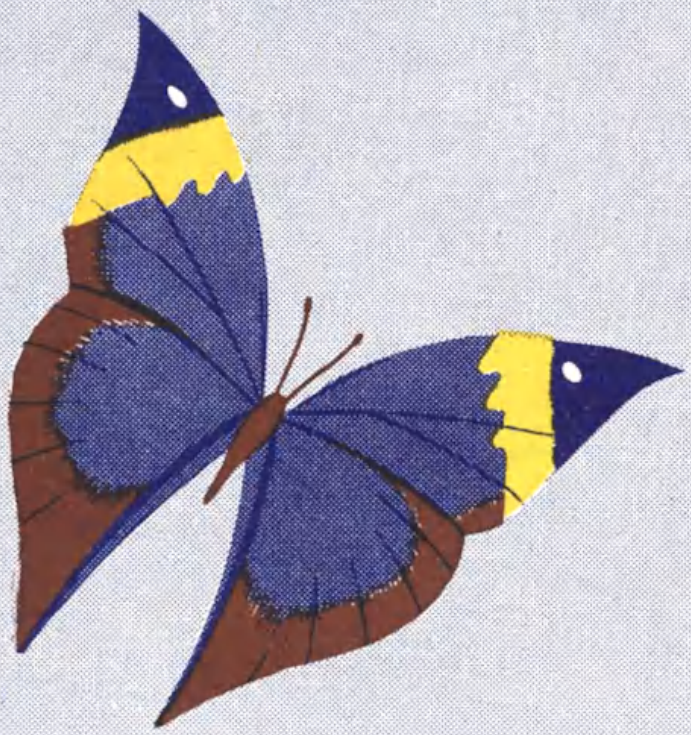

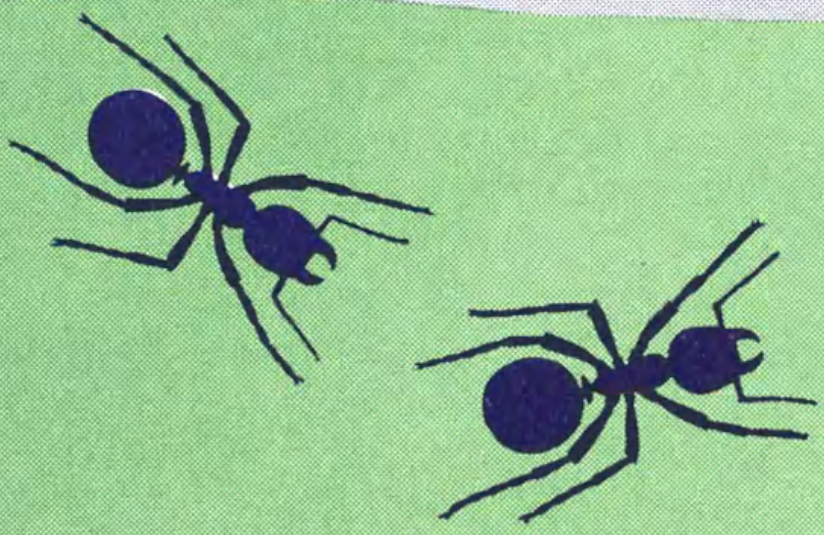

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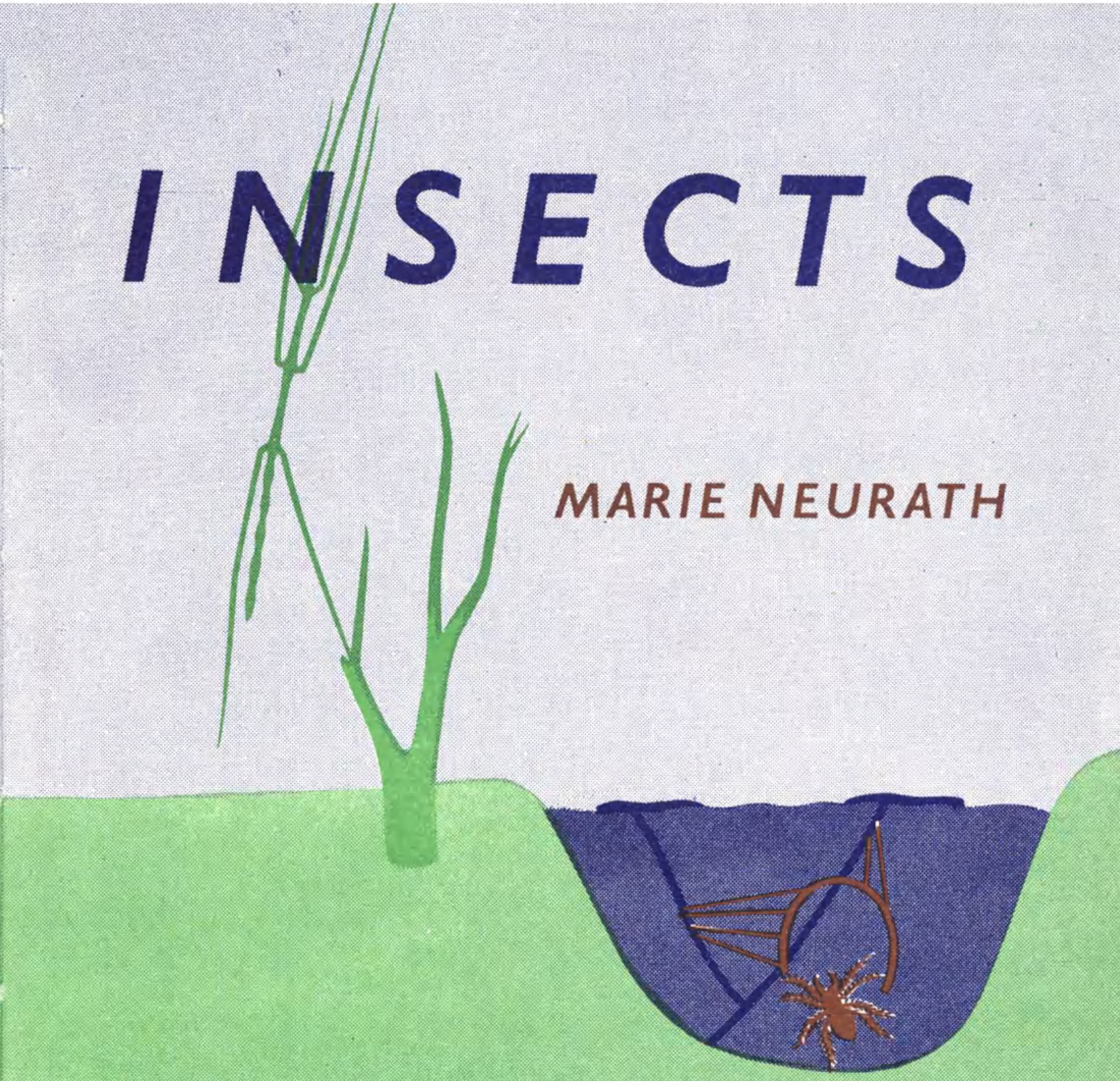
MARIE NEURATH



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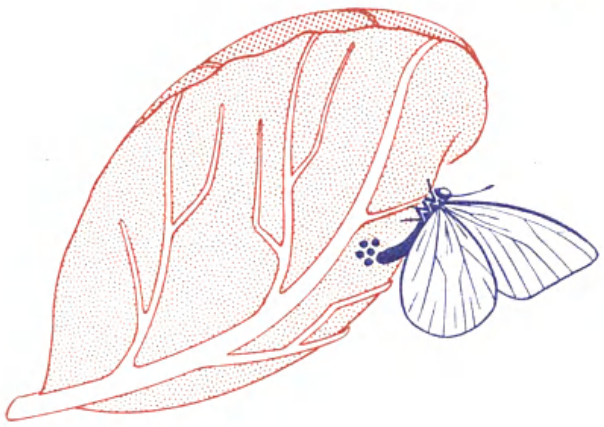
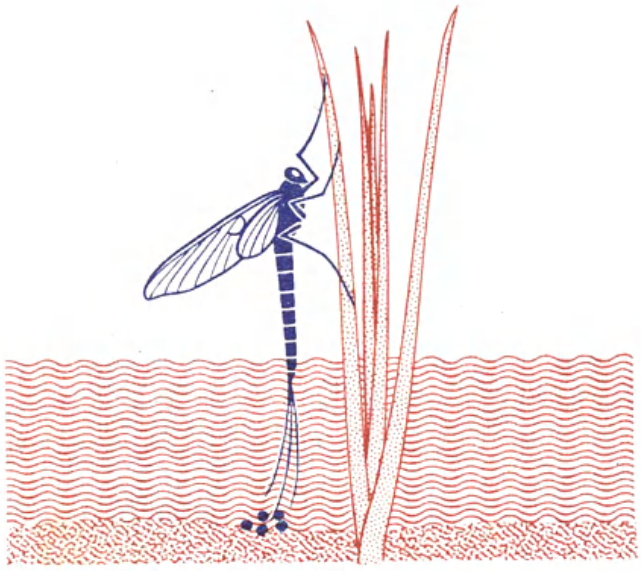
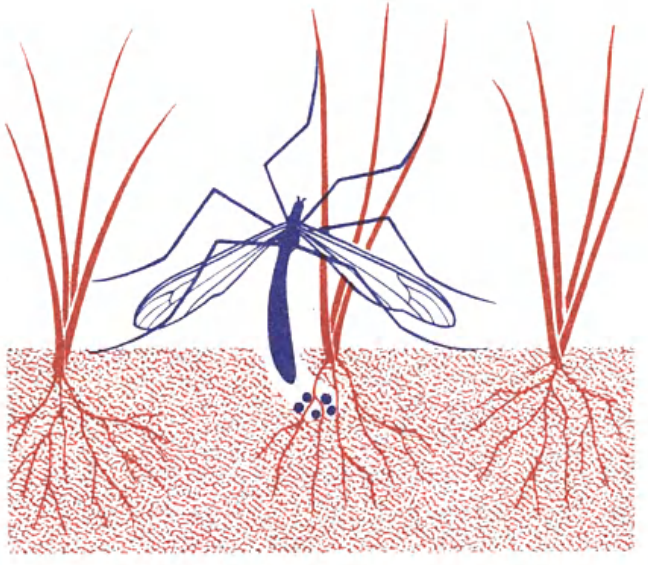
Insect Eggs which Hatch by Themselves



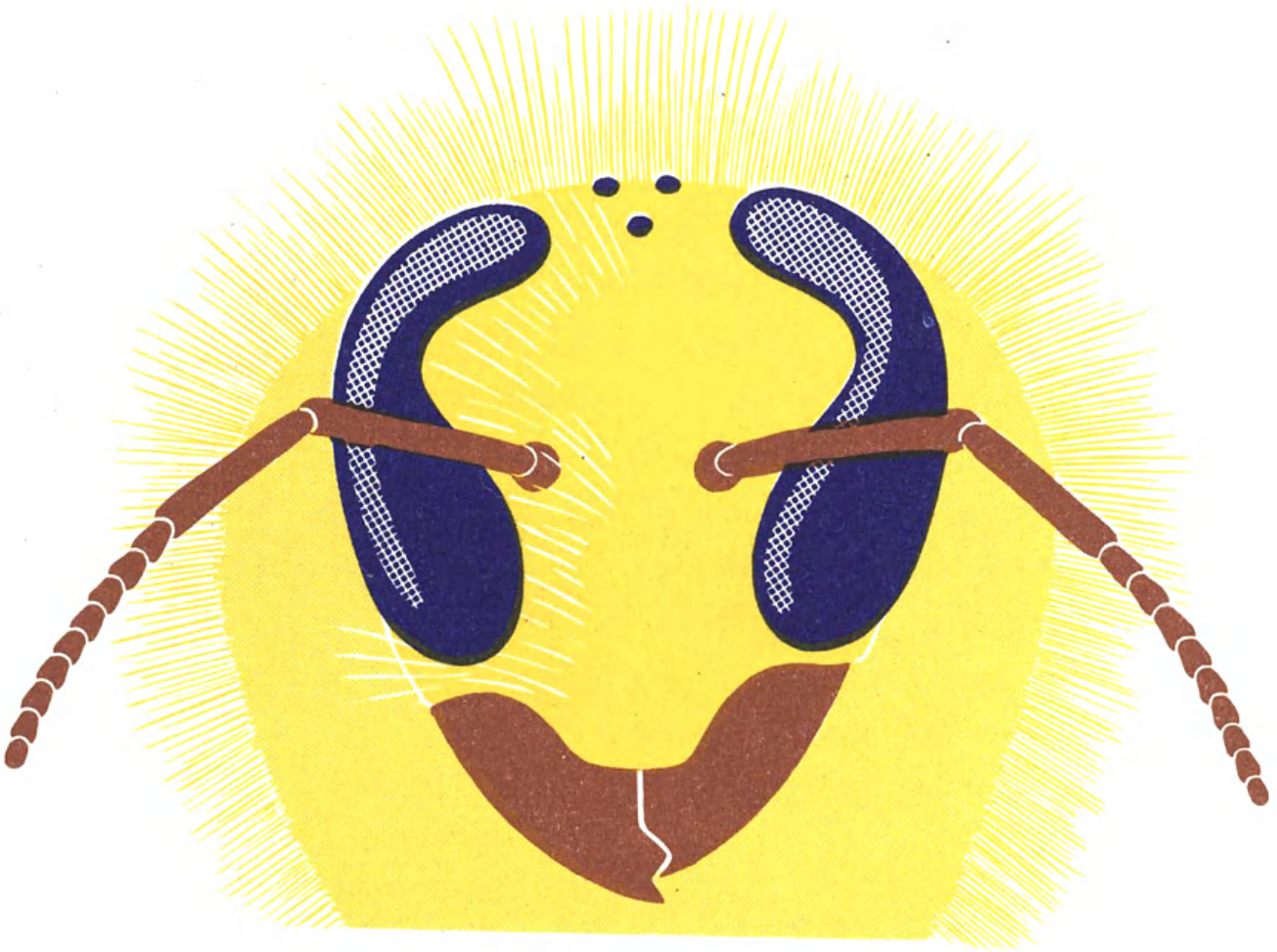
These insects simply lay their eggs and leave them. They neither know their children nor care for them. The butterfly's eggs are laid on a cabbage leaf; the crane-fly's are hidden among the roots of grass.



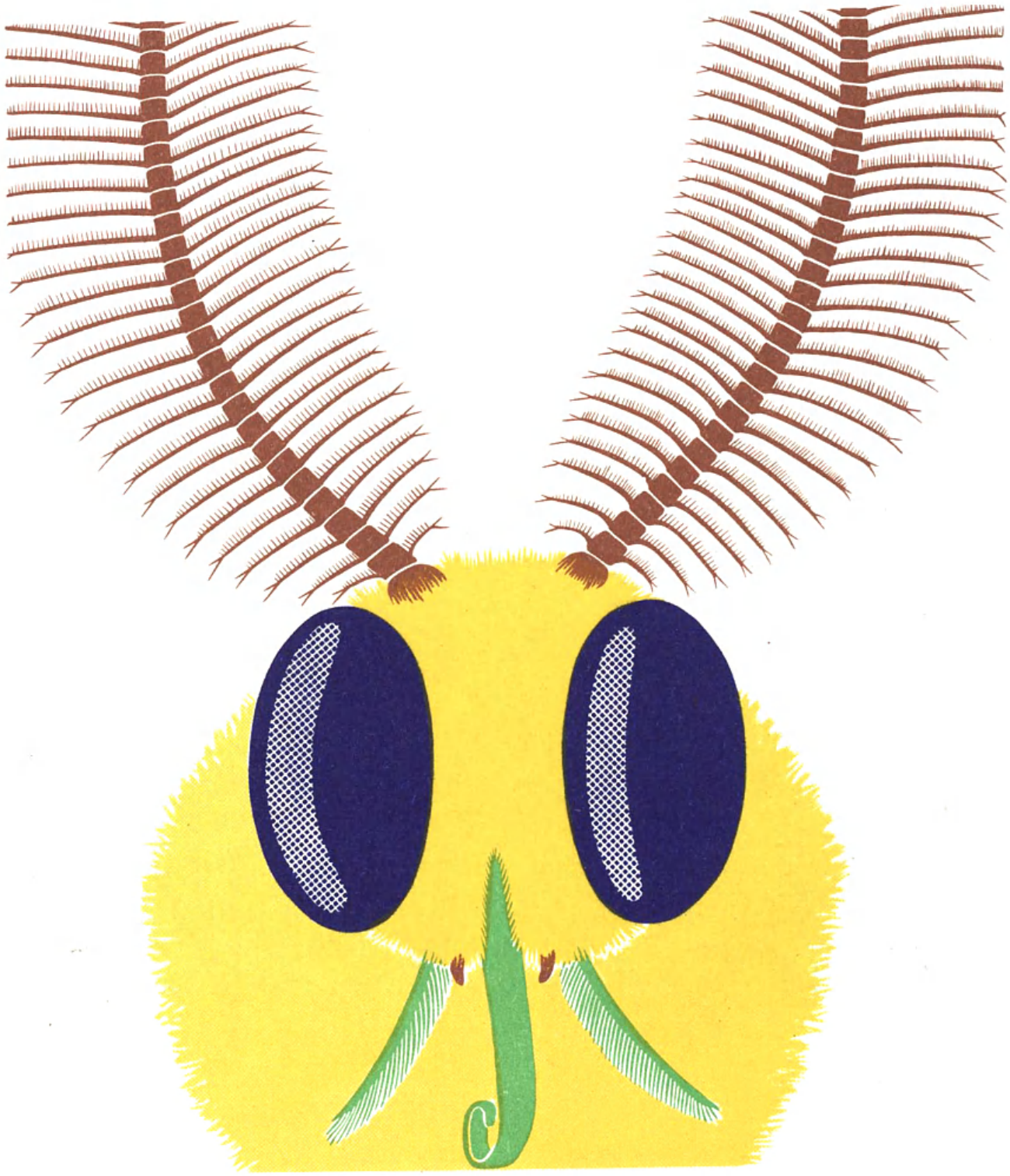
The May fly lays her eggs in the water. The grasshopper makes a hole in the ground and hides her eggs there.



Monsters of a Miniature World

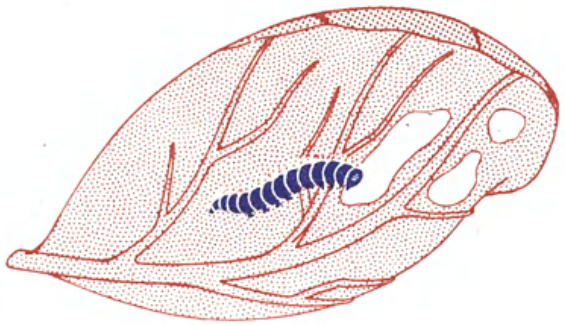


If you were as small as the insects, they would look like this. The wasp on this page has two long feelers and five eyes—two large and three very small. Its big jaws, which move sideways, can grind wood into pulp for building a nest. The moth on the next page has feelers shaped like ferns and two large eyes. Its long, curling tongue, used for taking nectar from flowers, is guided by two more feelers, one on each side.

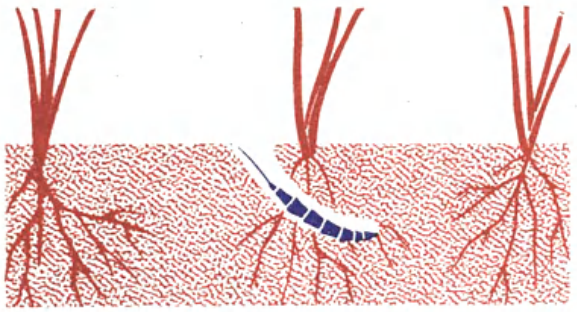


Would These Insects Know their Children?

When the eggs of these two insects hatch, the young are quite unlike their parents. Would they know each other if they met?



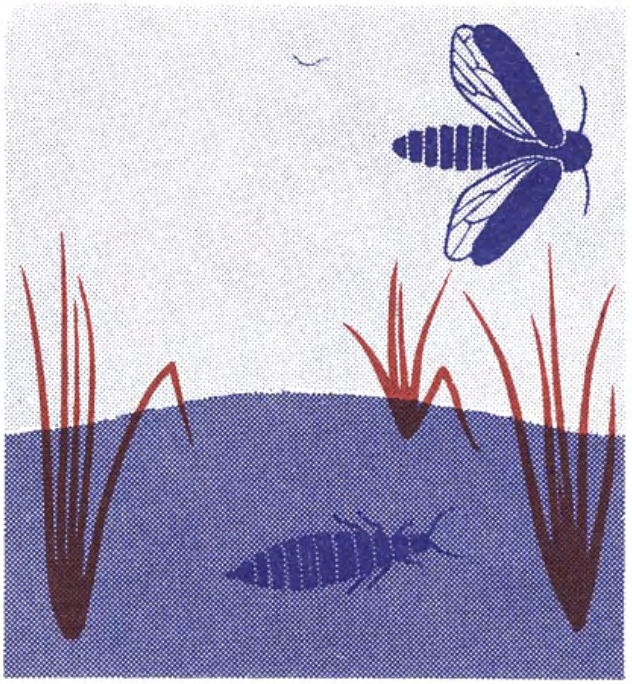
From the butterfly's egg a caterpillar hatches out.



From the crane-fly's egg comes a long-tailed grub.

Later, both change again, and, inside their ugly skins, they grow wings. When they come out they look like their parents.

The Insect-Lamp which Shines in the Dark



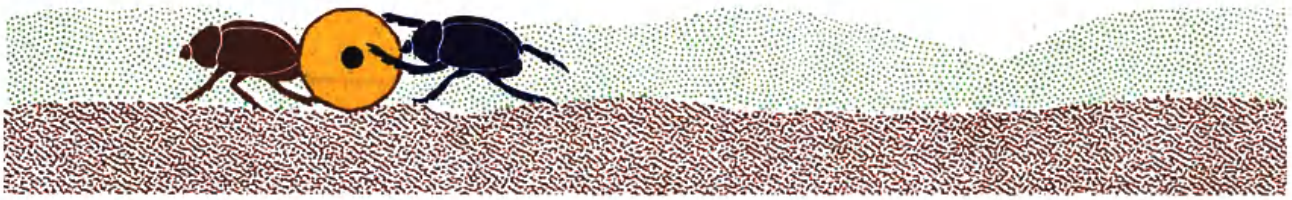
Glow-worms of this kind rest during the day and move about at night. The male has wings and he flies, but the female has no wings ; she crawls along the ground. In the darkness they could not find each other.

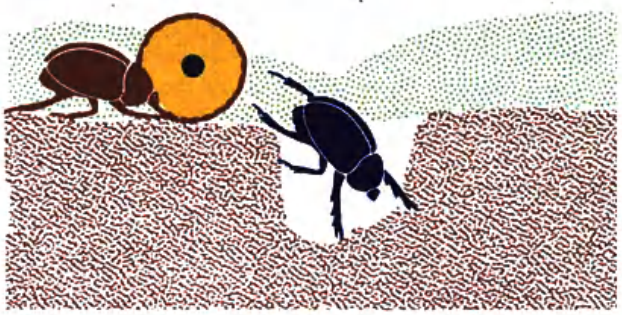
But the female can make the back few rings of her body glow brightly, like a lamp shining in the darkness.
When the male, flying overhead, sees the light, he comes down and finds her. Some kinds of female glow-worm *can* fly, but they do not shine so brightly.

The Ball-rolling Beetle

Sisyphus beetles (or tumble-bugs) seem to enjoy climbing little hills and tumbling down again.

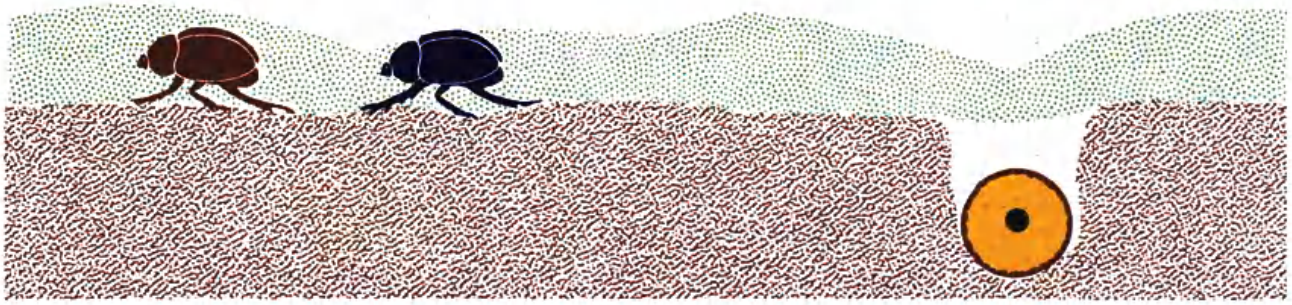
But they also work very hard, taking care of their eggs. The mother and father collect soft pieces of sheep droppings and make a ball the size of a pill, shaping it with their claws. The mother lays her egg in the middle of the ball. Then, both walking backwards, they roll it along, mother pulling and father pushing.



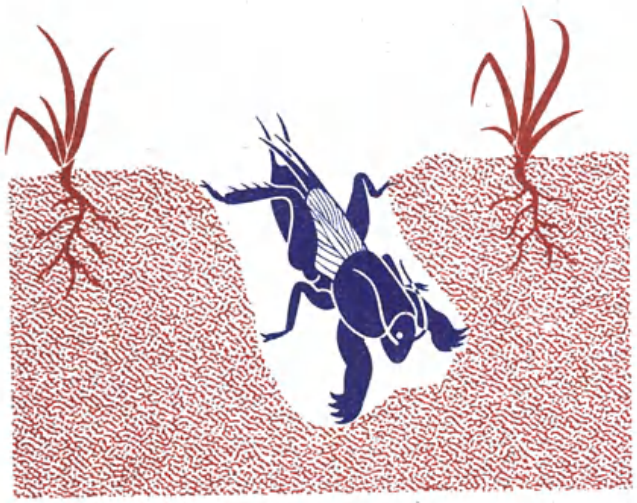


As the ball rolls, grit from the ground forms a hard crust round it. Then the mother digs a hole and both beetles lower the ball into it.

When the egg hatches, the ball will provide food for the young insect. The mother and father can safely leave it and begin work on the next one.



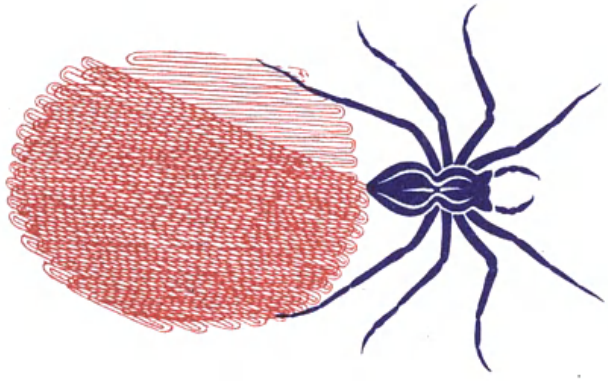
An Underground Nursery

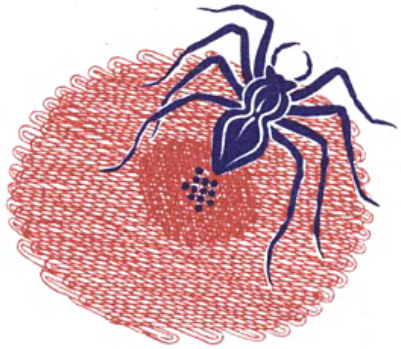


The mother mole cricket uses her strong front claws to dig and burrow like a mole. She lays her eggs near the end of a tunnel and stays there to watch over them until her babies hatch out.

Then she stands on guard at the entrance to the nursery, ready to attack any beetle which may try to break in.

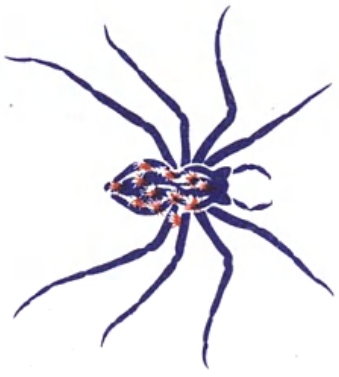
A Shawl of Silk





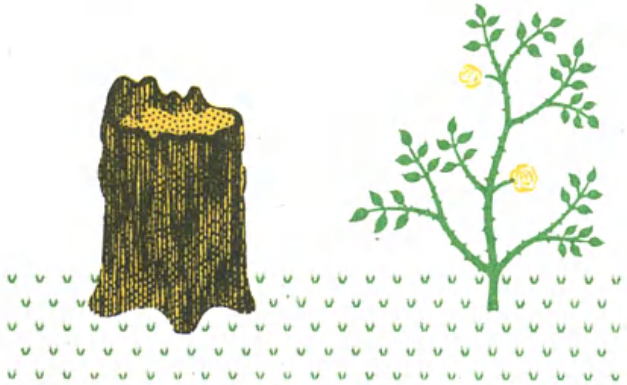
The wolf spider spins a piece of web like a tiny silk shawl and lays her eggs on it. She gathers up the edges to make a sack and carries the eggs about with her.

When the young spiders hatch out they climb on their mother's back, each clinging firmly to a hair.



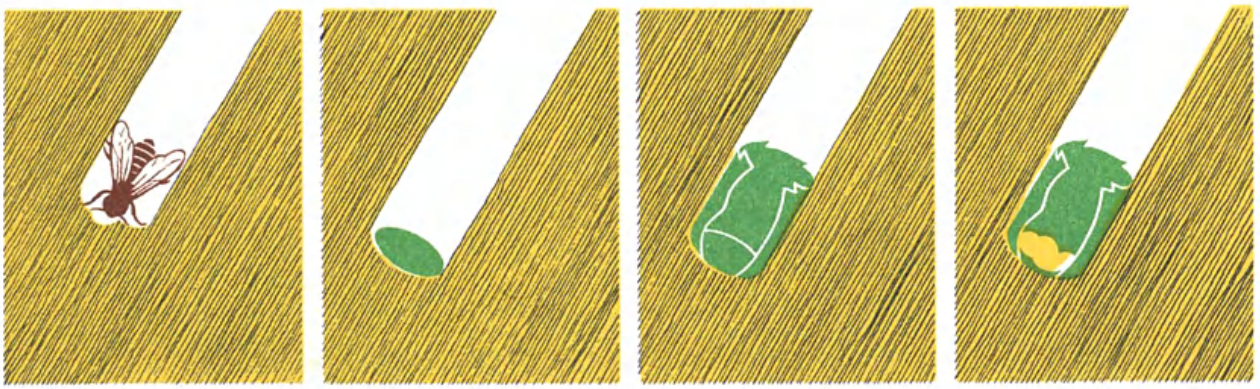
Spiders are not strictly insects although we often call them so. Full-grown insects have only six legs.

A Nest made of Rose Leaves and Honey



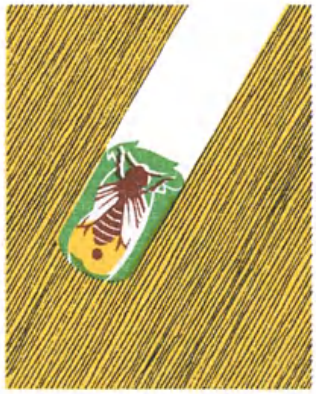
1 The leaf-cutting bee makes a nest for her eggs in an old tree-stump.

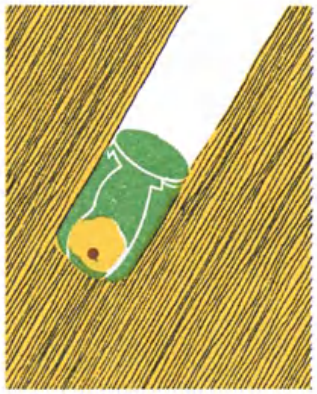
2 To line it, she cuts bits of leaf from a rose-tree, some round, some oblong.

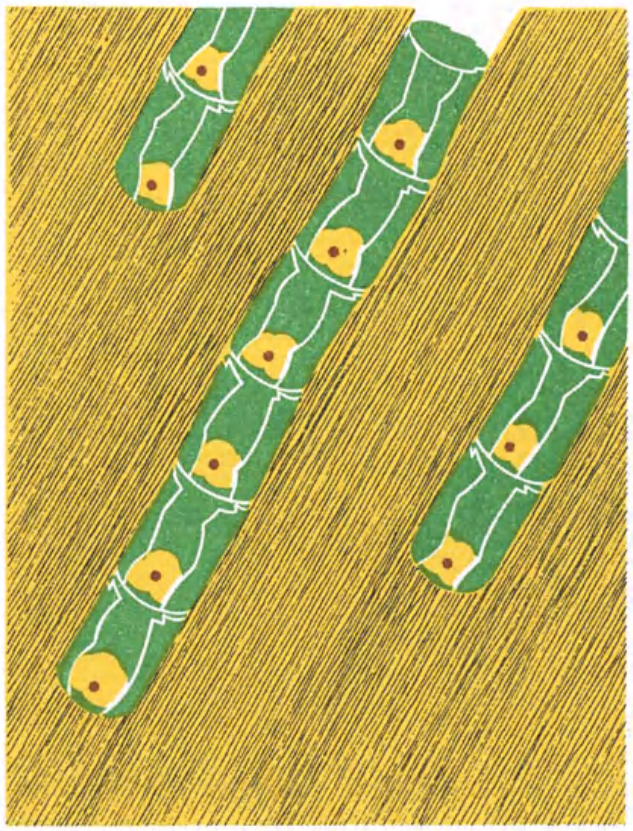


4 After she has burrowed deep into the old, soft wood, she covers the bottom of the hole with a round piece of leaf and lines the wall above with oblong pieces. Then she fills the small green cell with honey.

3 To stock it with food, she visits flowers and makes honey from the nectar.



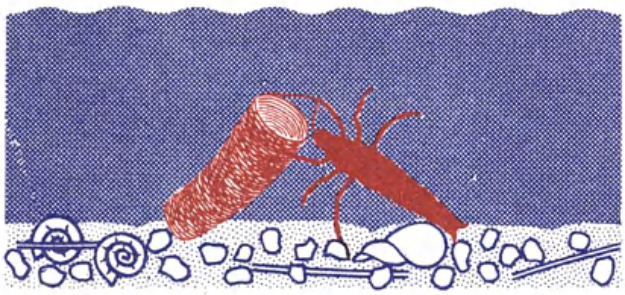




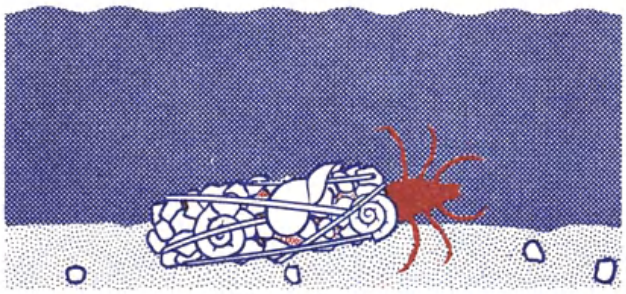
5 She lays an egg in the honey and covers it with rose leaf. When the grub hatches, it will feed on the honey.

6 More and more cells are made until the hole is full. Then the bee flies off and never knows her young ones.

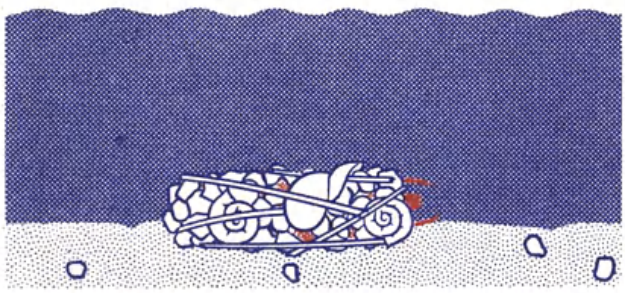
Two Strange Houses Under the Water



Working at the bottom of a lake, the caddis worm spins a long sticky thread and makes a kind of web, shaped like a small stocking.

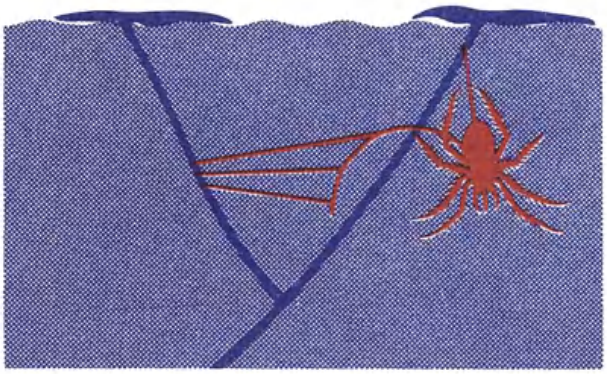


It collects tiny stones and shells and pieces of stick which it fixes to the web to form a strong house, just big enough for it to live in.



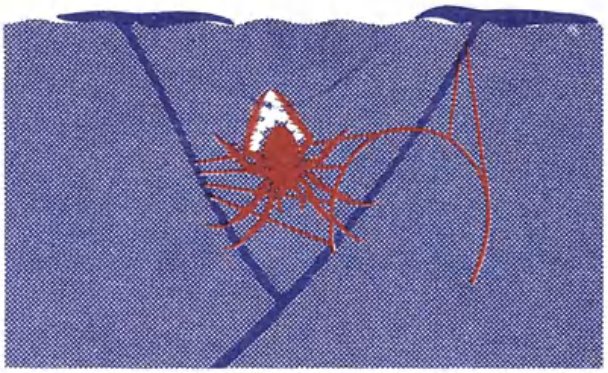
The caddis worm clings to its house tightly with the hooks at the end of its body. It can pull the house along, but it cannot be pulled out.

In time the caddis worm leaves its house, sheds its skin, and turns into a winged caddis fly, living in the air instead of under the water.

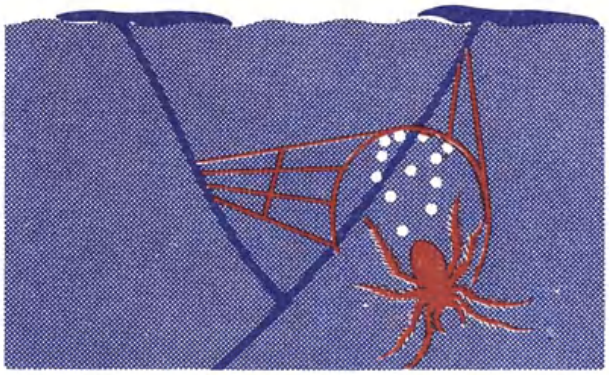


The water spider spins a web, shaped like a gipsy caravan, among stems of water plants.

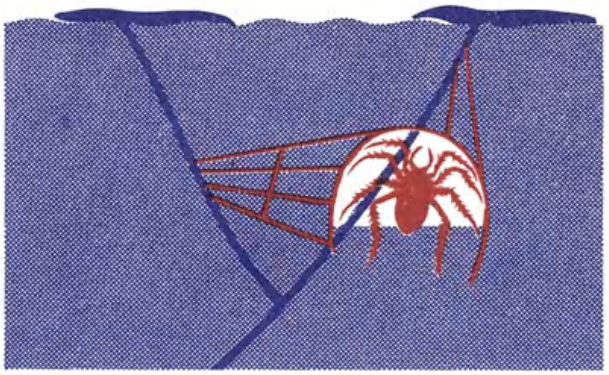
At the top of the water, air bubbles cling to its hairy legs.



With back legs folded, it takes the air under water.

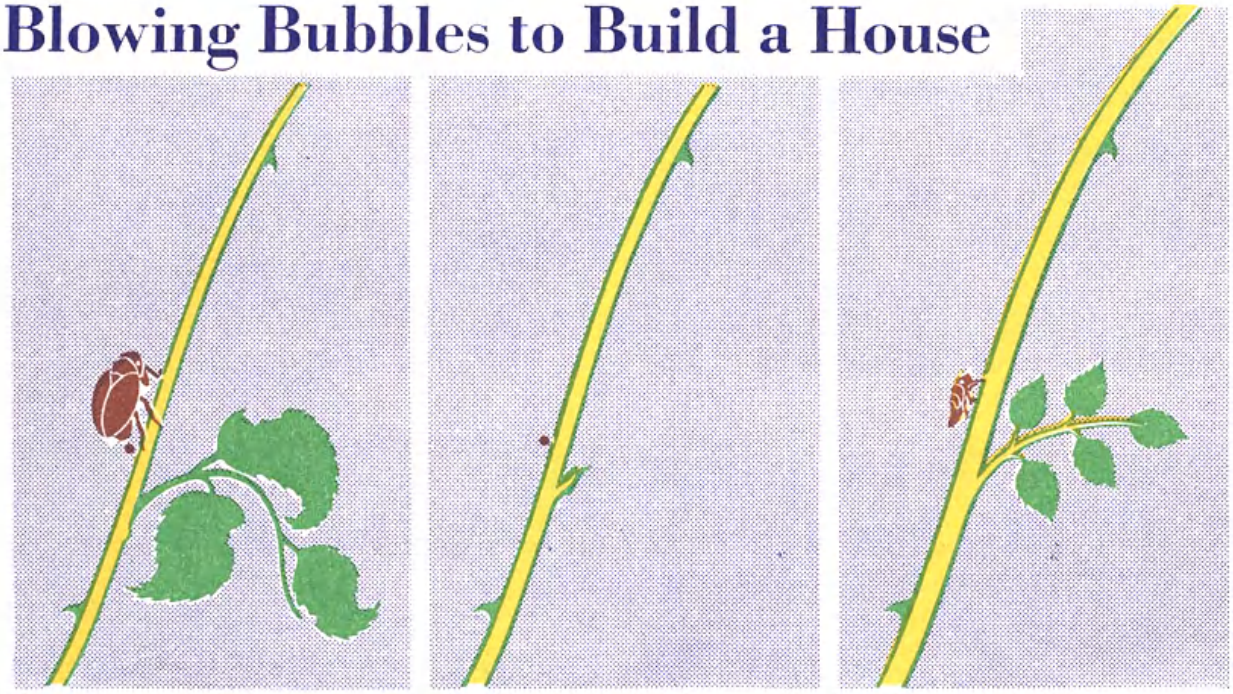


Below the web it opens its legs and the bubbles rise.



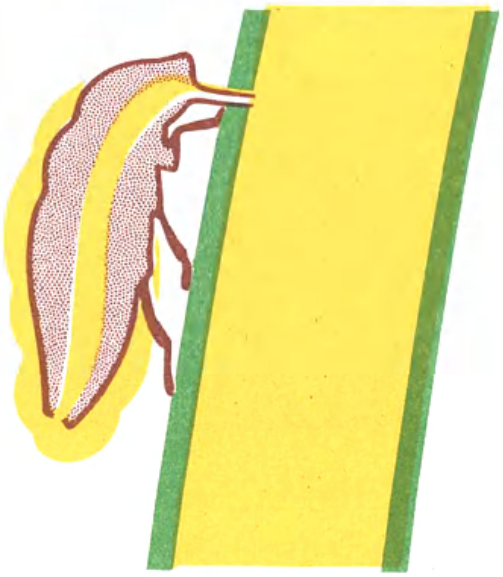
Air collects under the web and the spider can breathe.

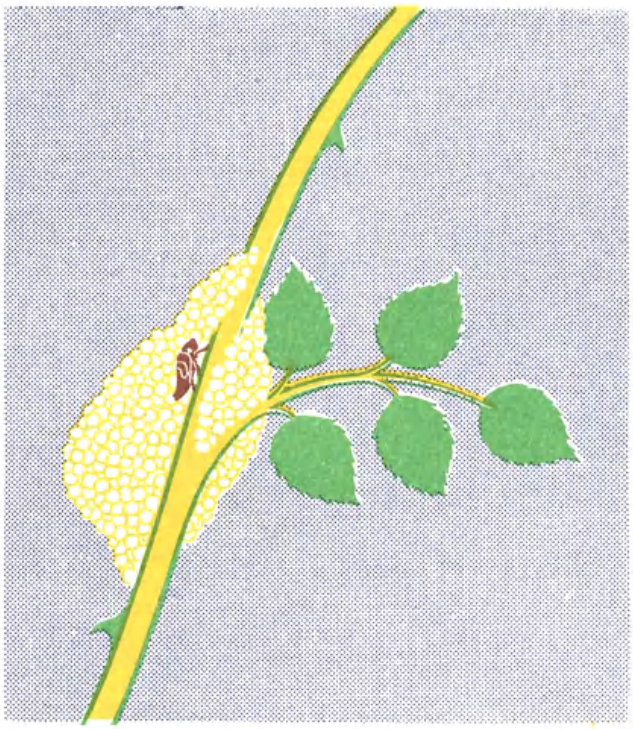
Blowing Bubbles to Build a House

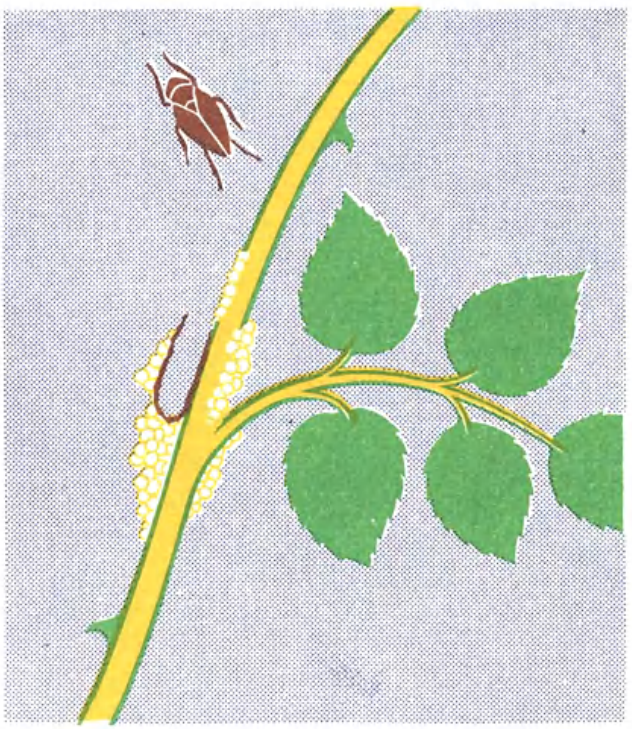


After summer the froghopper lays an egg on a plant stem. The young one which hatches next spring is weak and cannot move.

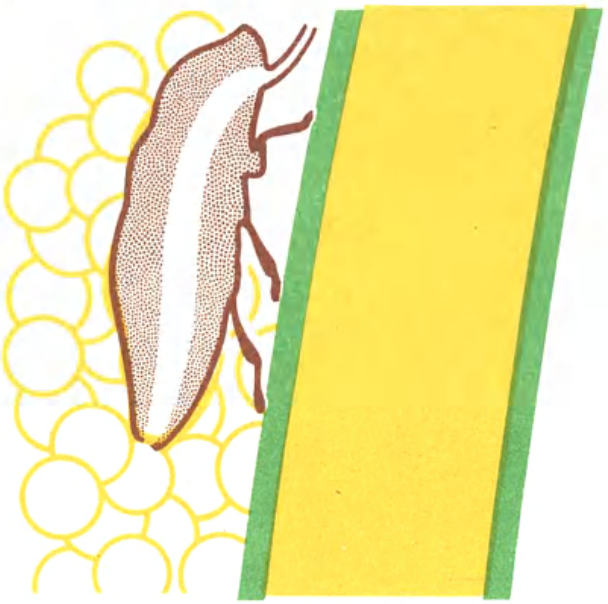
This enlarged picture shows the young froghopper getting ready to make his foam house. With his beak-like mouth he draws sap from the stem. The sap passes right through his body, mixes with a kind of wax, and covers him with a liquid like soapy water.





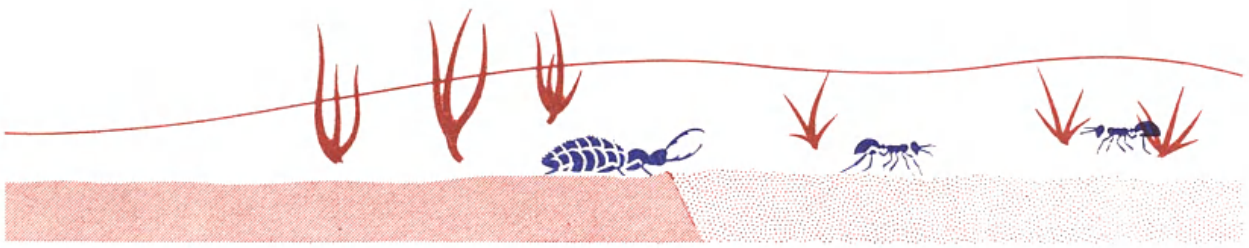


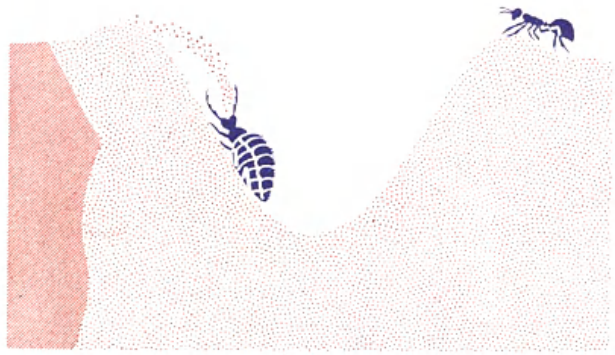
To protect itself from the heat, it makes a house of bubbles. There it lives until it sheds its coat and jumps away.

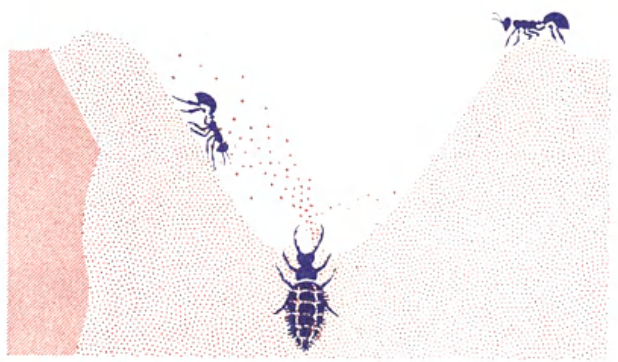


Next he withdraws his mouth from the stem and breathes in air. It passes through the tube down the middle of his body and blows the film of soapy liquid into a mass of foamy bubbles. Even on the hottest day the froghopper's house keeps him cool.

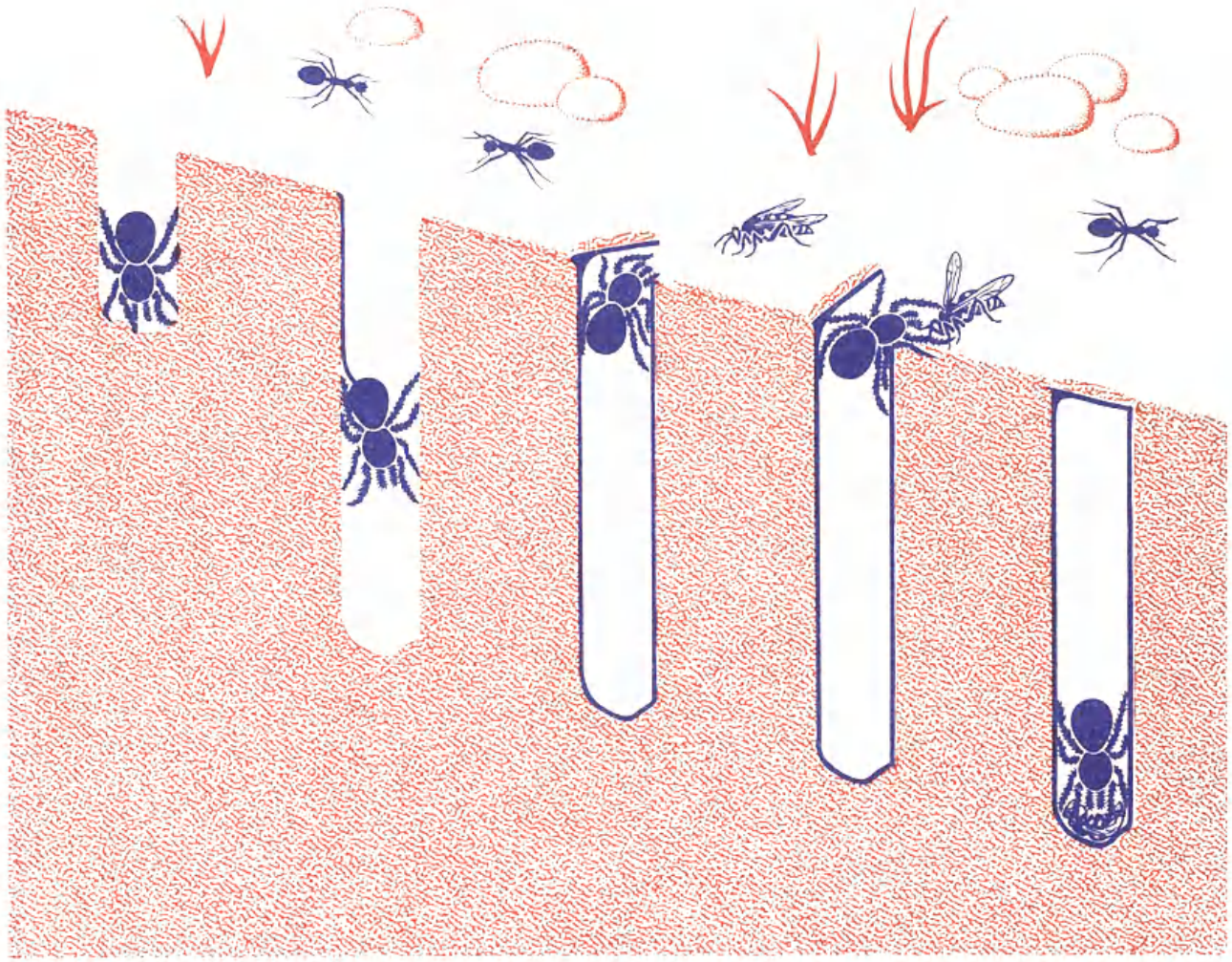
Setting a Trap to Catch a Meal





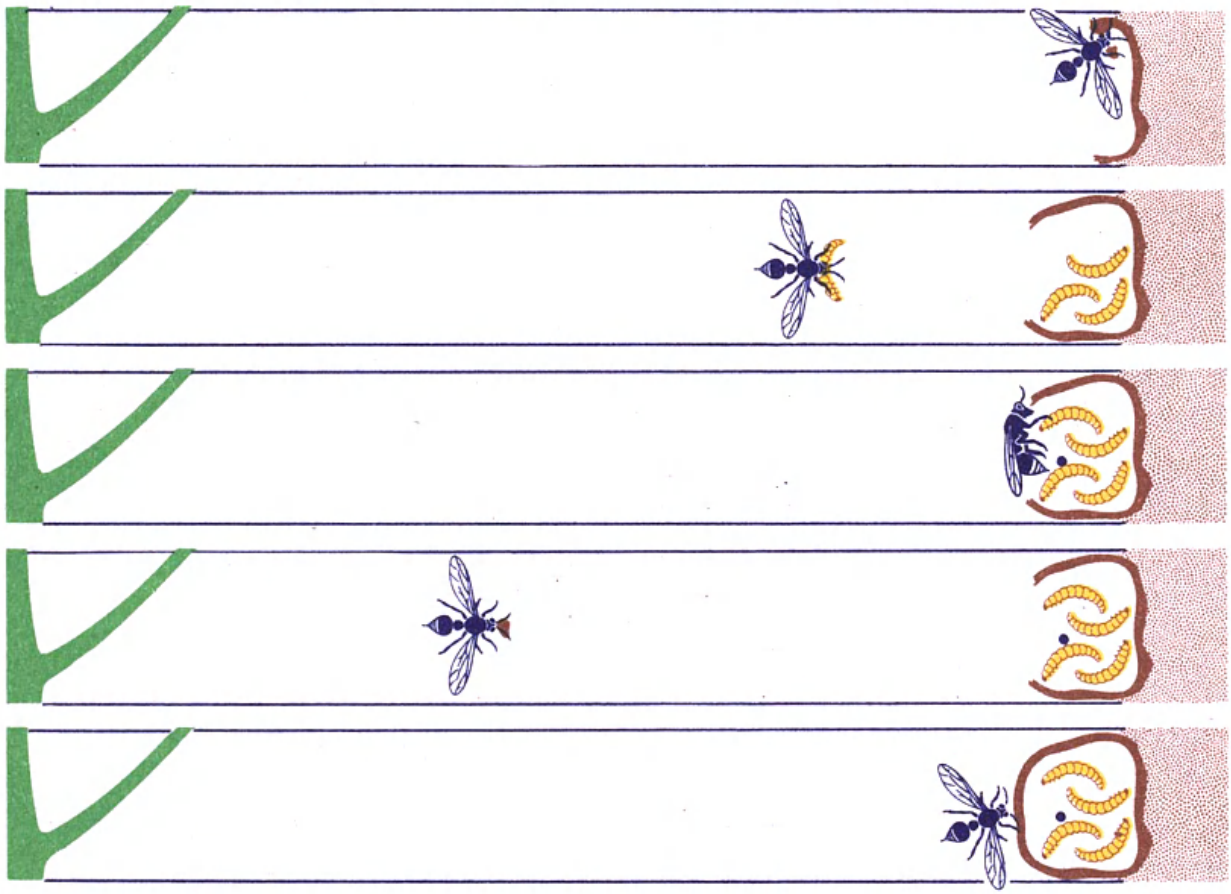


From the egg which the ant lion fly lays, a young ant lion hatches out. He crawls along the ground until he comes to a sandy spot. Then he quickly digs a steep pit, flinging the grains of sand over his head. He hides at the bottom with only his long jaws showing. When an ant slips down the side of the pit, he seizes it.

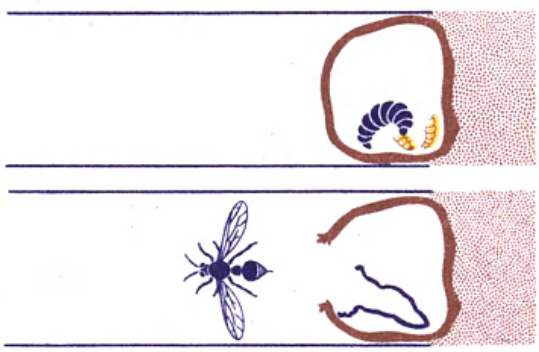


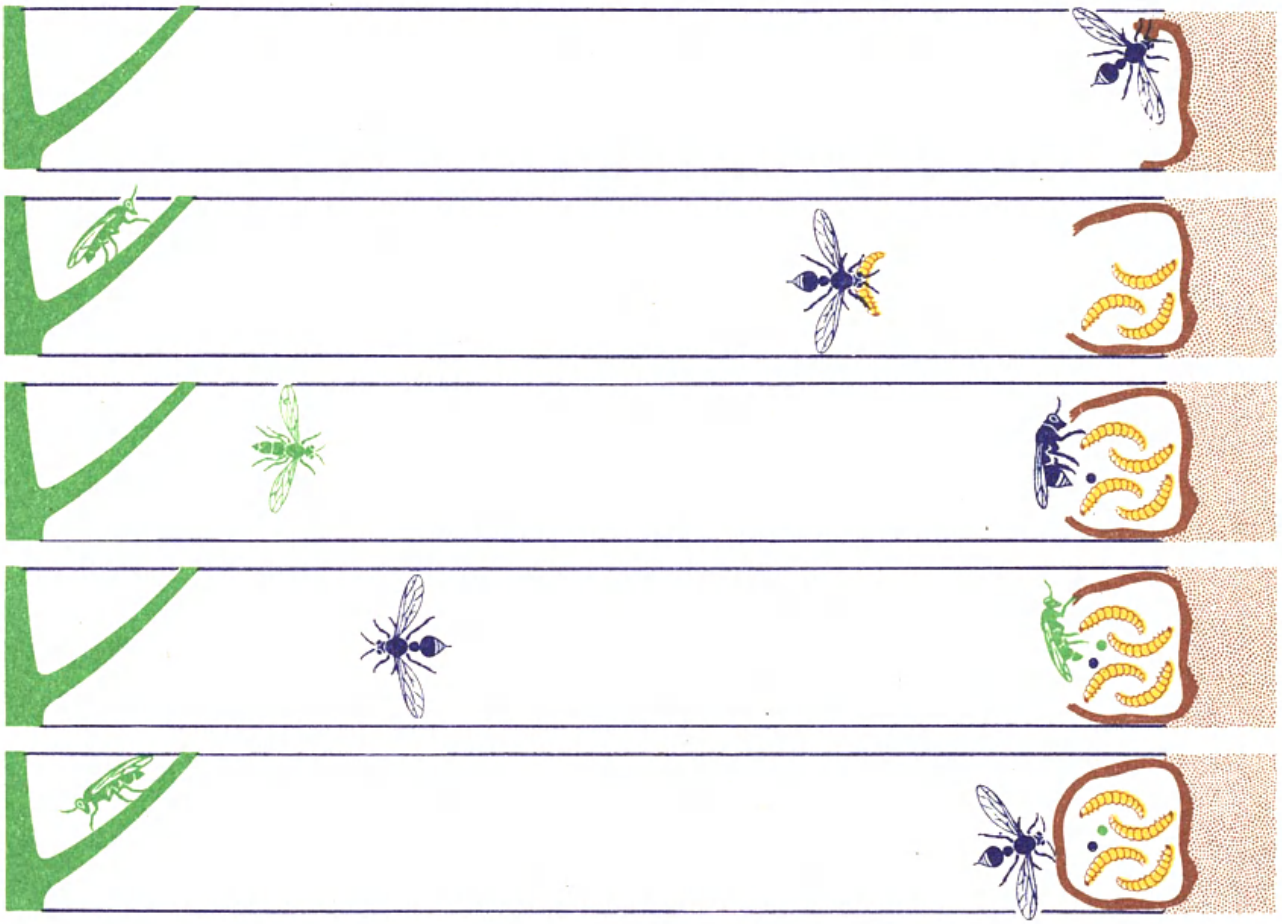
The trapdoor spider digs a hole, lines it with a web, and places a lid over it, spinning a thread to make a hinge. She covers the lid with earth and hides below it, peeping out. When an insect passes, she pounces on it and drags it into her lair. The door closes and the spider begins her meal.

The Cuckoo Wasp in the Mud-wasp's Nest

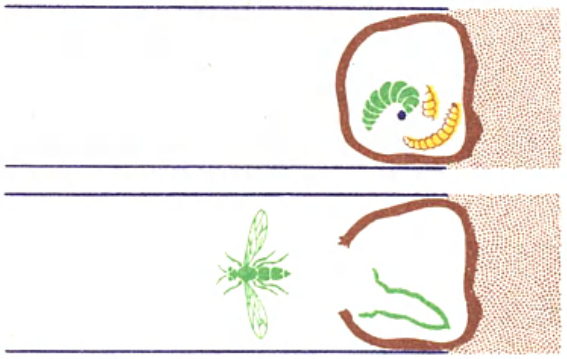


The mud-dauber wasp builds a nest of mud on a wall. She fills it with small caterpillars, lays an egg in it, and covers it with a lid of mud. When the grub is hatched, it eats the caterpillars.
Later it turns into a wasp and flies away.

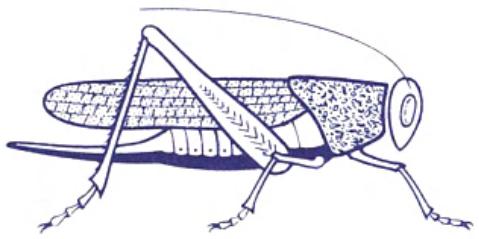




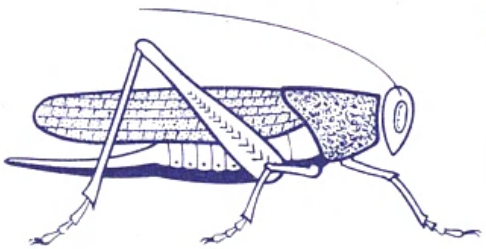
Now and again a cuckoo wasp hovers near by. Before the nest is finished she lays one of her own eggs in it. The grub of the cuckoo wasp hatches out first and eats everything in the nest. In time a cuckoo wasp flies out instead of a mud-dauber.



The Still Watch of the Fighting Mantis



With forelegs held up as if she were praying, the fighting mantis stays quite still.



The grasshopper, not knowing he is in danger, draws nearer.

Suddenly the mantis plunges her sharp hooks into her victim. She grips it between her saw-like legs and devours it.

Mantes are born battlers. Even before they have grown their wings they begin to quarrel and fight with one another.

Duels between two female mantes usually end when one is hurt, but sometimes they will fight to the death.

In late summer the females dance their death-dance before the males. Then they fall upon them and kill them.

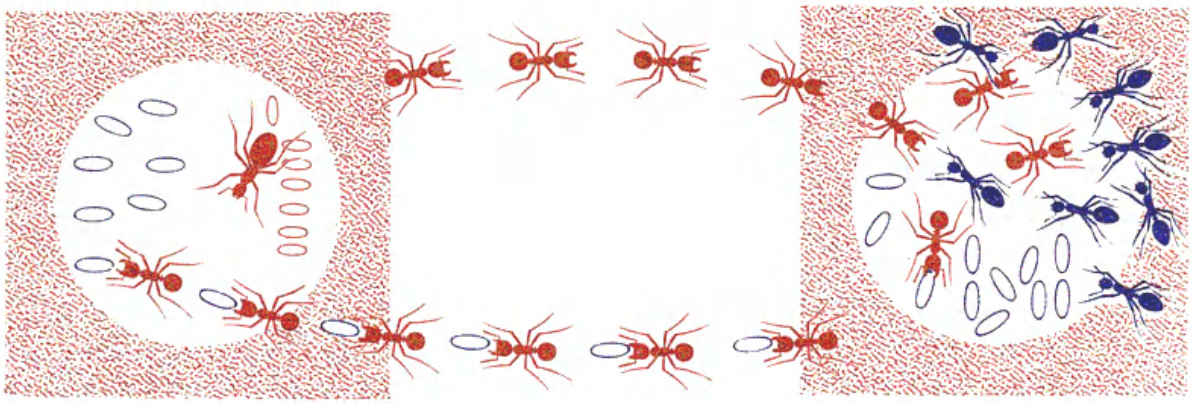
Tricking the Enemy by Strange Disguises

The blackbird is looking for something to eat, but he can see only a few leaves and thorns, a green stem and a round shell. Five insects are hiding there but they are all disguised to trick their enemy. Can you find them ?

When the bird goes, the " shell " unrolls and becomes a woodlouse, a " thorn " becomes a treehopper, and a " leaf " turns into a lovely butterfly. The stick insect climbs up the green stem, and the click beetle no longer pretends to be dead.

The Slave Ants which Feed Their Masters

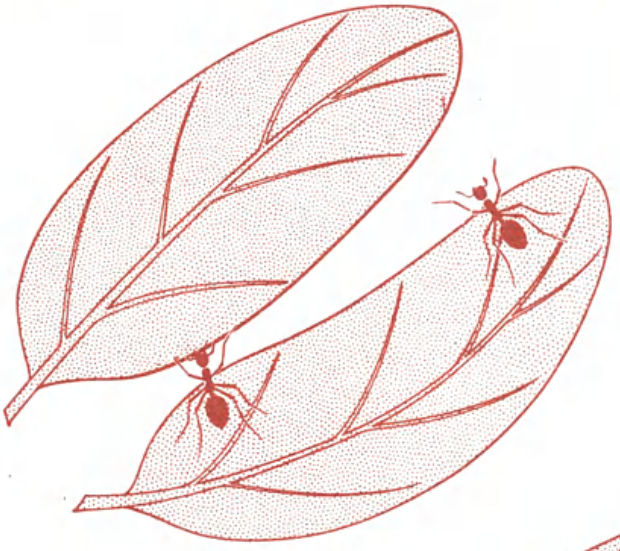
Amazon ants use their strong sickle-shaped jaws for fighting. But they cannot use them for building their nests, rearing their young, or even feeding themselves.



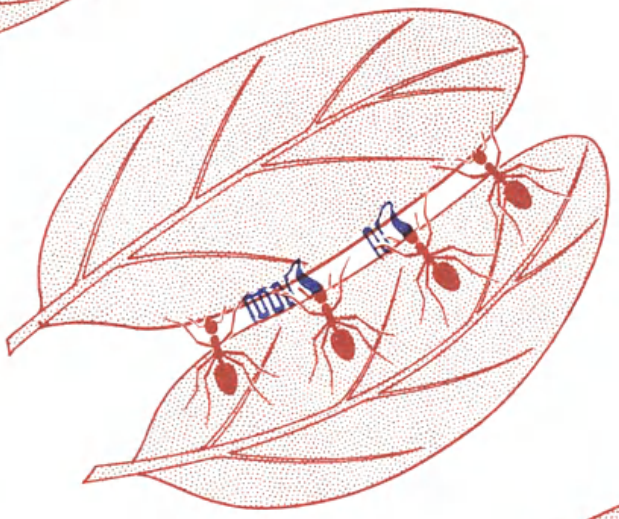
In late summer they make war on nests of smaller ants, steal their young ones (still wrapped in egg-like cocoons) and return to their own nest, each with a cocoon in its jaws.

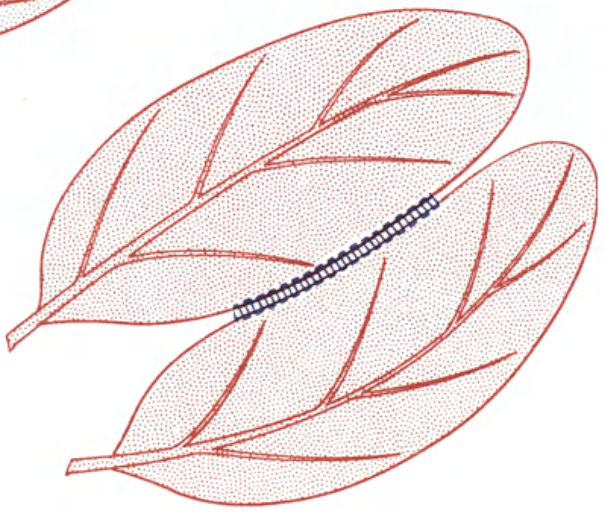
The young ants which come from the cocoons become the amazons' slaves. They build nests, care for the young, and put food into their masters' mouths.

The Weaver Ants whose Children Spin



Weaver ants sew leaves together to make a nest. While some hold two leaves in position, others fetch their young ones—small grubs which spin sticky threads.

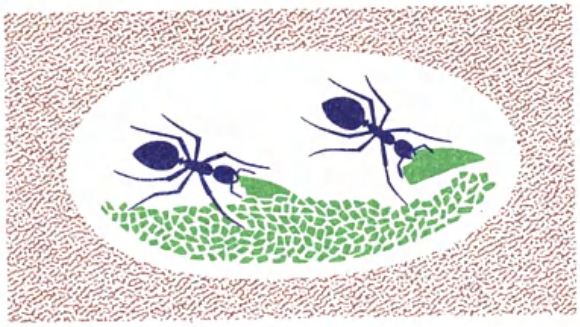




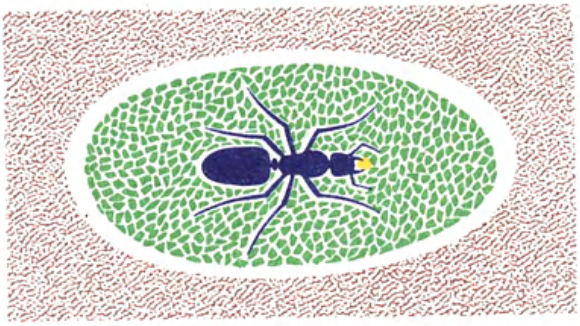
Holding the grubs in their mouths, the ants move them to and fro from leaf to leaf. The threads spun by the grubs hold the leaves together.

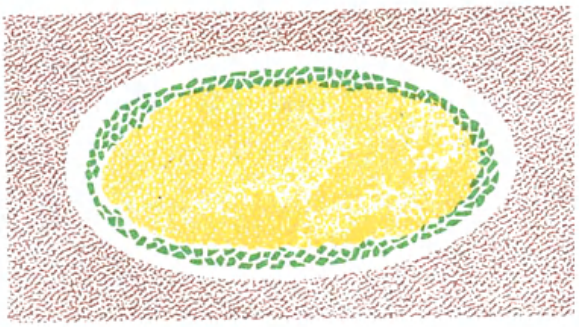
The Parasol Ants which Grow Mushrooms

Carrying bits of leaf above their heads like sunshades, these parasol ants hurry home.

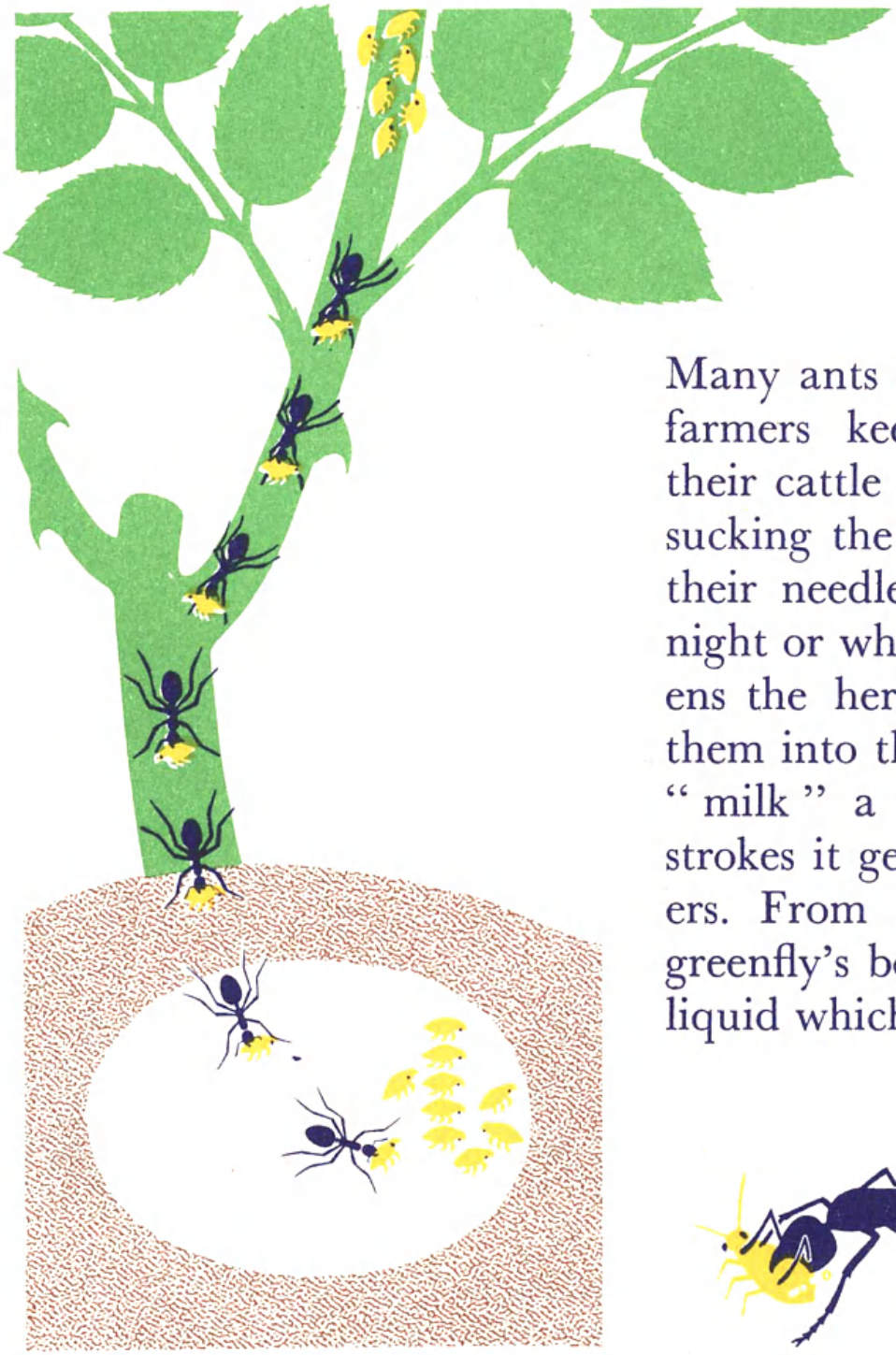


When they reach home, they chew the leaves into small pieces and spread them over the floor of their nest to make a "field." The queen has brought from her old nest mushroom spore or seed. She sows it in the new field and it grows rapidly. Very soon the ants have a fine crop, big enough to provide food for all of them.





Keeping the Cattle on an Insect Farm



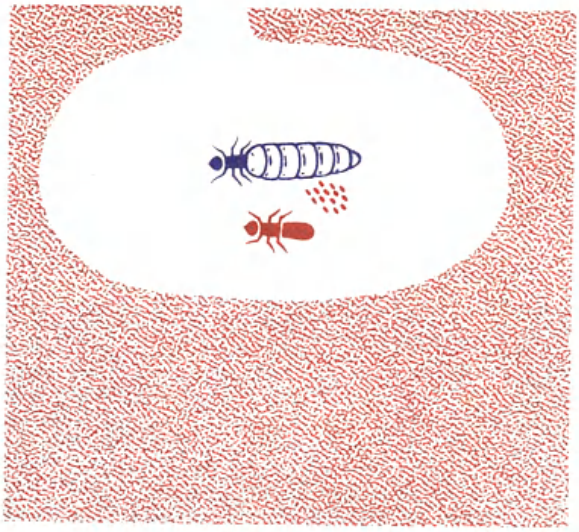
Many ants keep greenflies as farmers keep cows. By day their cattle graze on a plant, sucking the sap from it with their needle-like mouths. At night or when danger threatens the herd, the ants hurry them into their own nest. To " milk " a greenfly, an ant strokes it gently with its feelers. From the back of the greenfly's body flows a sweet liquid which the ant drinks.

The King and Queen of the Termites

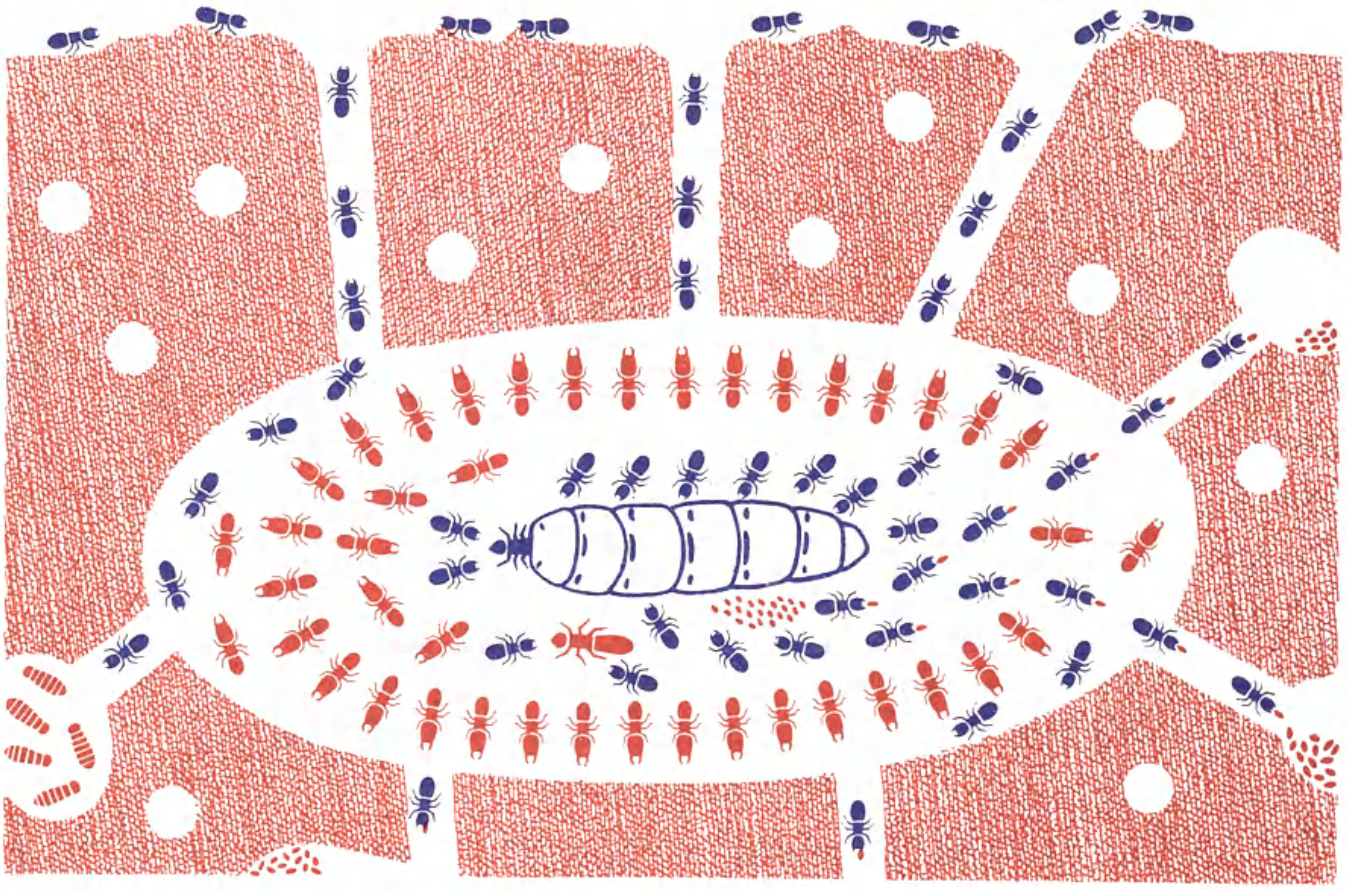
In late summer the wingless termite workers bore holes in the walls of their castle. The princes and princesses come out and fly away.

When a pair touch ground, they shake off their wings.

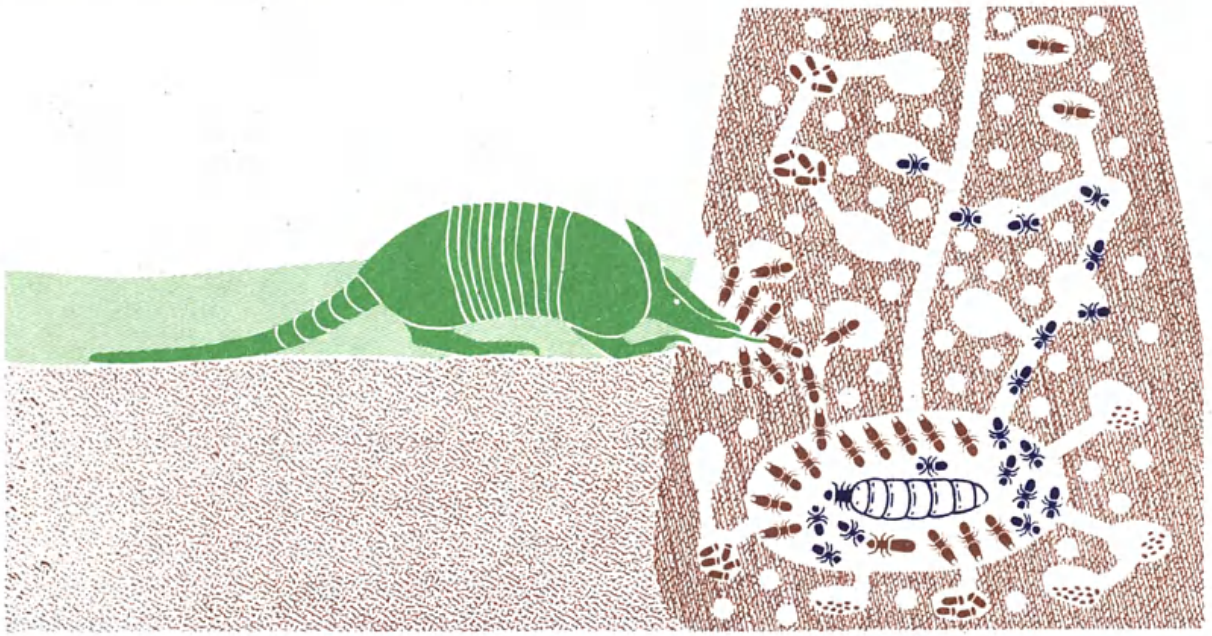
Soon they will no longer be prince and princess but king and queen. They at once begin to hollow out an underground room to serve as their royal chamber. There they will spend the rest of their lives. The queen, now growing very large, begins to lay thousands of eggs every day.



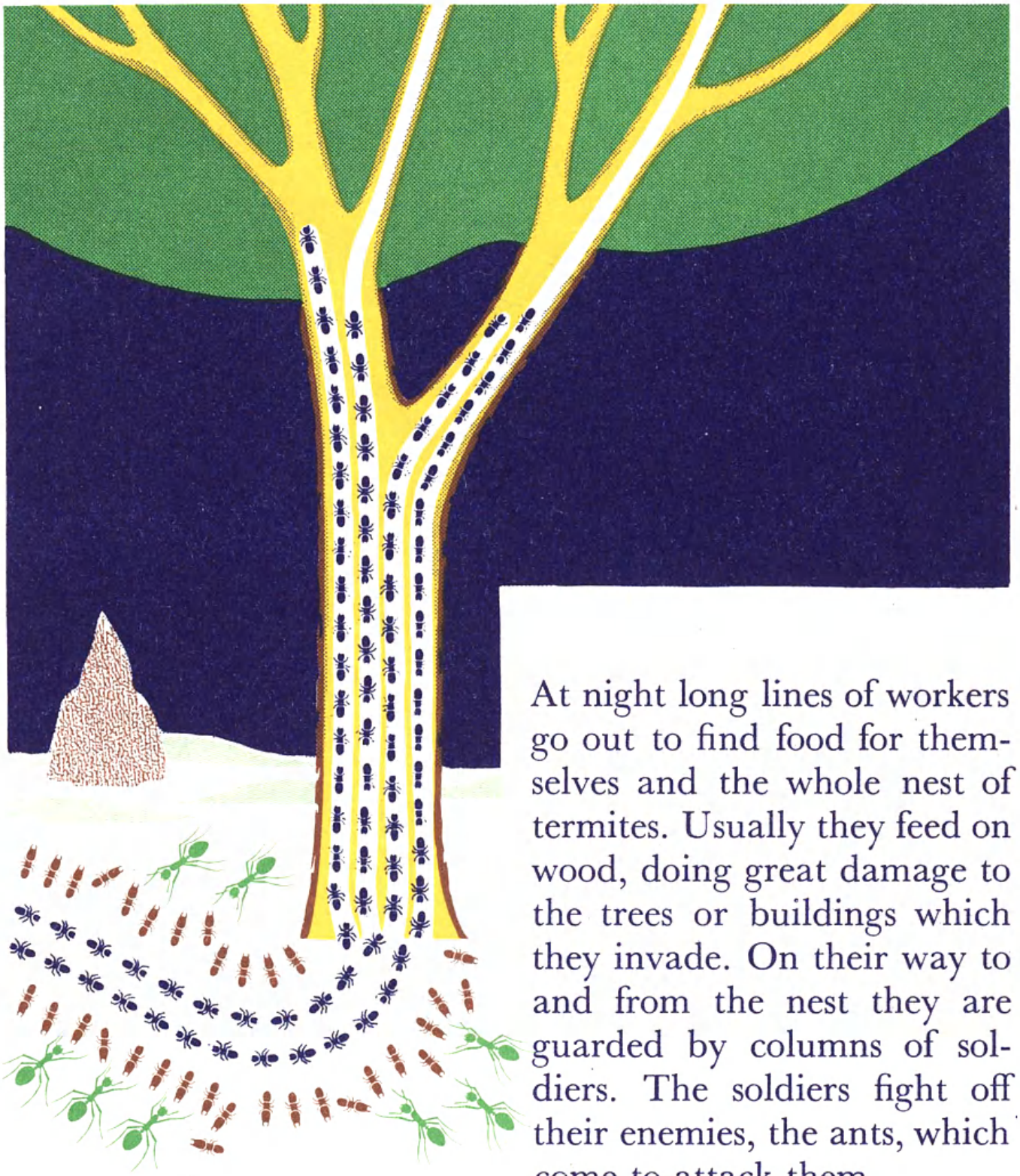
Soon a large number of workers (shown blue) and later soldiers (shown brown) develop from the eggs. The workers chew earth to form a cement and begin building a nest with many long corridors and with chambers where eggs and cocoons are stored. In time the nest will be a castle, rising high above the ground. The workers also wait on the king and queen and take care of the young ones. The soldiers guard the royal chamber and stand ready to fight any enemy which may attack.



The Soldiers which Defend the Royal Castle

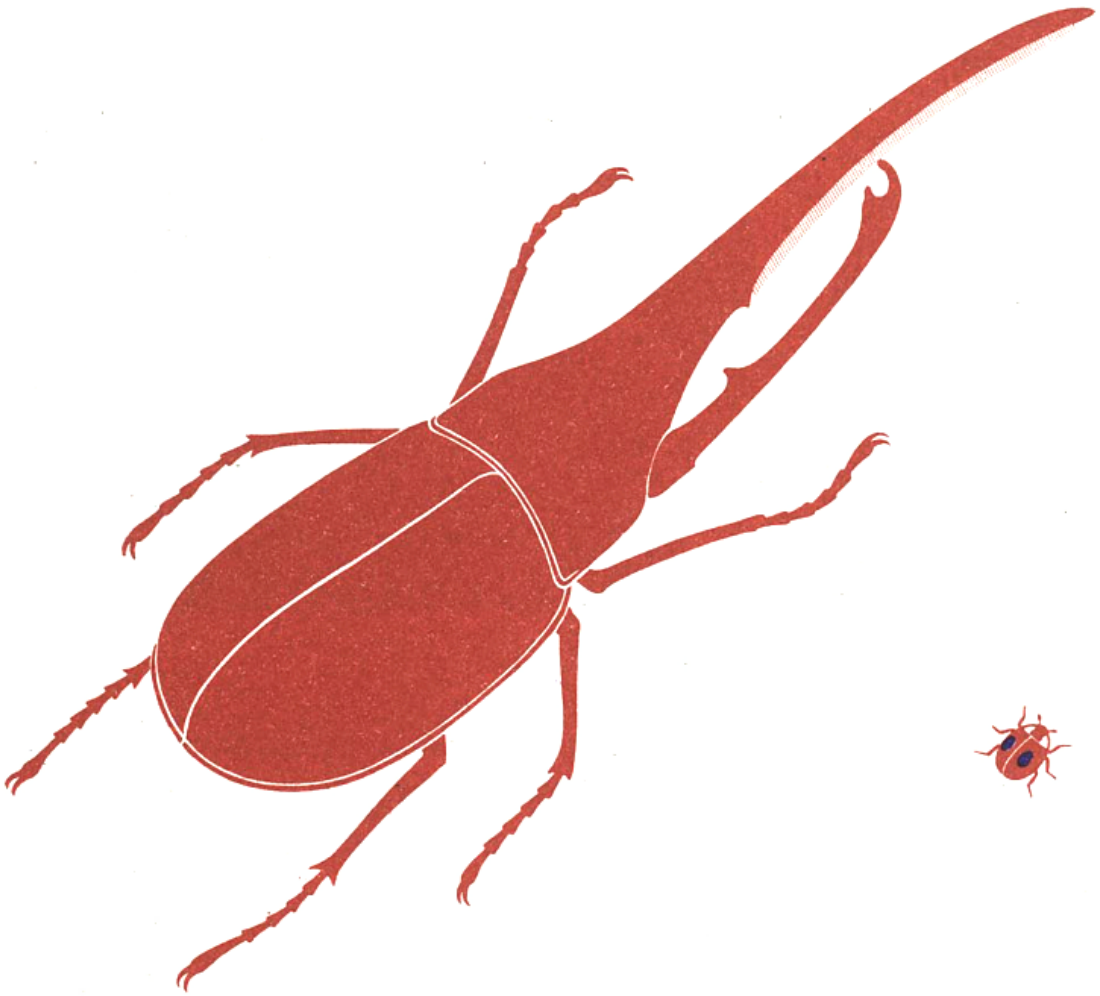


A hungry armadillo, in search of insects, pushes his long snout through the castle wall. At once the soldier termites sound the alarm. The workers hurry down to the royal chamber for safety while the soldiers swarm out to attack the armadillo, biting its tongue. When the enemy is driven away, the workers go out to repair the broken wall.



At night long lines of workers go out to find food for themselves and the whole nest of termites. Usually they feed on wood, doing great damage to the trees or buildings which they invade. On their way to and from the nest they are guarded by columns of soldiers. The soldiers fight off their enemies, the ants, which come to attack them.

A Beetle as Big as a Bird



Here is a life-size picture of the largest insect of all—the Hercules beetle of Brazil. It is the size of a full-grown sparrow, but to the ladybird (ladybug) it must seem even bigger than a whale would seem to us.

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